On preventing fevers
from exhalation.

"Odia in longum jacens, quæ reconderet, auctaque promeret."

Lectures on the means of preventing Summer & Autumnal Diseases. Del. Jany 17. 1804. begin p: 19

Origin of Epidemics from bad food, water, & Earthquakes – how prev^d?

V By ~~this~~ disease in the present instance I mean morbid excitement or ~~preternatural~~ irregular action, ~~[illegible]~~ of a partial nature ~~in muscular fibres~~, seated in different parts of the body.

Gentlemen,

I rise in compliance with your appointment to deliver as the subject of my oration, the result of the observations of four and forty years upon the Summer & Autum=nal Disease of the United States. V

In considering this disease, I shall
I enumerate its different forms, & afterwards make a few remarks upon them.
II I shall mention its causes, & ~~I shall~~
III I shall point out the means ~~which have been used~~ of preserving the system ~~of~~ from them, & ~~I shall~~ mention the methods of ~~with facility to prevent it~~ pursuing them, by exterminating their causes.

~~I You will perceive at one that I have adop=ted the idea I have taught for many years in the University of Pennsylvania by calling the~~

I The different forms of our Summer & Autumnal disease may be included under the following heads

1 Diarrhoea.
2 Colera morbus.

~~+ I pass over here the forms of indisposition in which this~~

v That all the above forms of disease differ ~~are~~ ~~the same in the~~ only in their seat, and ~~degree of~~ symptoms, but are the same in their nature, I infer from their appearing at the same seasons, from their depending upon the same cause, from their changing into each other, & disappearing ~~from~~ at the same time.

~~+ I pass over all these forms of indisposition under which the Summer & Autumnal disease sometimes disguise themselves, such as headach - tooth ach - opthalmia - lumbago & the like all the same other local affections as mentioned by Dr Fellen.~~

Also sporadic cases of all so from other causes —

3 bilious Colic. 4 Dysentery - 5 Febriculas, or what is called in the Southern States inward fevers. 6 Mild Intermittent; 7 Mild Remittent. 8 Choo=-rie ~~fe~~ or typhus fever. 9 Inflammatory bilious fevers, and 10 malignant, bilious, or what is commonly called yellow fever. +

It may appear ~~out to cross~~ strange to such of the members of this Society as have not been my pupils, to ~~consider~~ include all the forms of disease which have been mentioned under one name - But ~~I have~~ there are many precedents for doing so in ~~the writers upon~~ ~~society of the~~ in our practical books of medicine. I shall mention ~~but~~ one of them. ~~we do not~~ The Gout occu=-pies not only the limbs, but ~~the head~~ every ~~animated~~ other part of the body, ~~we denote~~ but no writer has upon that account distinguished it by a plu=-ral epithet. The small pox affects with disease & pain, not only the skin, but the head, the throat, the lungs, the ~~the~~ bowels & the kidneys,

~~v. the United States~~

and yet we do not find it has 3 received new examples
from each of those parts in our histories of diseases. ~~By the summer & autumnal diseases of~~
1 The annual Epidemic of our Country ~~seems~~
~~time appears~~ generally ~~appears in the form of~~
~~Diarrhoea &~~ makes its first appearance in
July in the middle states in which month it puts on the form
of Diarrhoea & Colica mordax.
2 In the month of August it assumes the
more dangerous forms of Dysentery & Colic,
with now & then the forms of fever in which
case, it ~~is either of~~ ~~consists~~ generally ~~of a~~
~~single or at most of but two &~~ terminates
in one day, or in two or three days.
~~They also are frequently excited by unripe or damaged~~
~~fruit &c.~~
3 The Dysentery ~~is a more common~~ appears more frequently
in Country places than in Cities. I have never
seen it Epidemic in Philadelphia. The ~~diet~~ more
cordial diet of the inhabitants of Cities pro-
bably

defends the bowels from the influence of miasmata ~~upon them~~, and determines their action to ~~other~~ the blood vessels in one of the forms of fever.

4 The Dysentery appears chiefly ~~in his~~ upon high grounds - ~~to~~ ~~which other~~ & frequently at the same time that forms appear appear upon ~~this~~ the declivities of those grounds, or in the plains below them.

5 The different forms of fever appear sepe=rately, or together in different years. In the year a mild Intermittent

Between the years 1760 & 1766 it appeared ~~chiefly~~ chiefly in the form of the what ~~what~~ was formerly called nervous fever, and ~~who~~ was often protracted to ~~one and~~ twenty ~~or~~ thirty & forty days.

In the year 1780 it appeared in Philad.

in the form of mild Remittent at which time it was known by the name of the break bone fever. The febricula appears frequently ~~in~~ in maryland, unaccompanied with any other form of fever. At this time it is said "though no body is sick, yet no one is perfectly well". Mr Volney in his travels thro' this country ~~was much struck with this general freshness of the inhabitants of the southern states~~, & informed me that he ~~found~~ discovered ~~in his~~ general freshness ~~to pervade~~ among the inhabitants of several other of the southern states in the fall of the year. The inflammatory fever prevailed alone in the city of Philad^a in the years 1791 & 1792. It was the forerunner of the malignant, or yellow fever which prevailed in the year 1793, & which ~~has~~ for several

years since has been the solitary Epide-
-mic of our city. But again - all these
forms of fever appear together in the same
season, ~~but apparently independently of each other~~ ~~this was the case in Philad.a in~~
~~the year 1802.~~ & sometime they run into
each ~~other~~ other. This was the case in the
year 1802 & 1803. The mild Intermittent changed
into a malignant yellow fever & the malignant
yellow fever after the 3rd day put on the form of
a mild Intermittent ~~The same malignant~~
~~fever~~ and sometimes of a nervous fever.
The same forms of ~~The~~ Summer & Autumnal disease differ
in different years in ~~its~~ their symptoms & ~~in~~ their
signs of life and ~~death~~ ~~& in their modes of cure~~.
the obstinate costiveness attended the malignant
& a ~~dry~~ skin impervious to sweat
fever of 1793 a Diarrhea attended the same
form of fever in 1802, and a moist skin was
a general symptom of ~~the~~ it in 1803. a

V Diff^t Const^n afford diff^t grades of disease – also residence as new Comers in West Indies.

Different grades of activity in Miasmata – as from water to g^ly steel.

1 V^ous affects sexes Colors &c – ages &c Nations – why fresh West Indies escape it & we not –

2 also differs in requiring more or less ex: – citing cause Dr Mangin's story.

3 It appears earlier, or is more prolonged – or worst near Confluence of fresh & salt water. Elliott.
its predisp^n as in Tissot: fevers & opthal^a.

4 yield to frost & ice – heavy rains –

It will be expected I add Contag: – in what like consump^n
ers tenses – never Epidemic from it.

5 They are most apt to affect Strangers. more obvious
in Hav^a than in middle States, where the coldness
of winter &c
follows clearing Country.

6 Old people kept alive by them.

7 Different determin^ns as head – stomach – limbs
& above all liver. In 1791 & 1792 dispat^y very common.
& follow course of winds. Smithill.

Sore throat was a favorable symptom in the malignant fever of 1793 - but a fatal one in the same fever in 1798. An hemorrhage from the Gums which preceded death in 1793, ~~but~~ was followed by a recovery in nearly all the cases in which it occurred on the 5th day in 1798. Copious bleeding, & strong mercurial cures were the ~~most~~ most effectual remedies in the malignant fever of ~~year~~ 1793. The same fever ~~season~~ ~~1803~~ yielded ~~to~~ moderate bleeding, gentle purges early blisters & copious sweats in the year 1803. ✓

✓ The Disease under consideration differs in its Symptoms, ~~being its nature~~ in different parts of the same ~~time~~ Season. It sometimes comes on like a beast of prey, and goes off with the gentleness of a domestic animal. Again its puts on an opposite character. Sometimes it makes its first appearance in the form of a Dysentery, & changes in its course into malignant fever. Dr Deval

sometimes known on the first visit, again not so -
V. ~~Ty~~ yellow fever known first visit - in 1793
not so in 1802 & 1803.

8 ~~Whenever they have~~ All the forms of fever ~~[illegible]~~ that have been mentioned when they become Epidemic chase away all other forms of disease, or impart some of their Symptoms to them. ~~Thus the throat in 1780 put on the symptoms of a Remittent.~~ The puerperile fever becomes an Intermittent during the prevalence of that form of fever. The ~~malignant~~ yellow fever of ~~1793~~ 1793 blended its malignant Symptoms with the Gout, & any other form of disease. ~~In~~ the year 1798 it ~~predominated over the fever excited by a broken leg~~ ~~to~~ and ~~demonstrated~~ it discovered its universal dominion ~~over all~~ by ~~an~~ ~~predominating~~ mixing with ~~even~~ the fevers which were excited by ~~a broken leg~~ accidents, & in one instance ~~finally~~ sealed its presence by an ~~unexpected~~ black Vomiting on the 5th day after a broken leg.

I ~~Fever~~ ~~Bracitica~~ disease ~~differs~~ yields in different Summer & Autumnal months of the years, and in different ~~parts of the person~~ same year to ~~a~~ different modes of cure.

~~In~~ the ~~year 1793 the~~ malignant fever of the year 1793 ~~yielded only~~ required to copious bleeding, strong purges ~~&~~ a salivation. The same fever in 1803 was cured by ~~a~~ moderate bleeding, ~~gentle~~ active purges, early blisters, and copious sweats. The peruvian Bark was exhibited with universal success in the intermittents of 1781, the same medicine did harm in the inflam. & Intermittents of 1794. Bleeding proved ~~fatal in~~ suddenly fatal in the malignant fever of 1793 in the ~~in beginning of the~~ month of August. After the ~~discontinuance of the~~ stimulus of heat was abstracted from that of Miasmata ~~in the~~ near the middle of September the ~~same remedy~~ blood ~~&~~ Vessels rose ~~under~~ after

v Dr Blair's yellow Skin only a

the use of the ~~same remed~~ lancet, & it finally became one of its ~~general and~~ principal and most successful remedies.

10 The summer & autumnal differs in its degrees of mortality in different years, & sometimes in different parts of the same season. – ~~The Remittent~~ ~~for the early~~ Few recovered from the malignant fever of 1802 ~~in~~ a few died of the same fever in the year 1803. The malignant fever of 1793 was rarely fatal when treated with ~~the~~ depleting remedies in systems, but it resisted ~~the~~ ~~the whole~~ their whole force ~~of these remedies~~ of medicine in the succeeding month. This difference in the mortality of the yellow fever is not confined to the United States.

Dr Halliday lost but

while Dr Hosack acknowledges that ~~the most du~~ seldom more than ~~3 to~~ 3 in 4 recover

✓ I shall only add two remarks. 1 ~~Study~~ ~~Study~~ diseases in their connection with each other &c muscular motion &c which see in Vol. II on Epidemics

2 Study every Epidemic every year.

× How do they act? Stomach – lungs – vapors.

in the most successful practice on the Island of Jamaica. — It would ~~seem as if dis-~~ ~~-cussion~~ be foreign to the ~~do~~ design of this discourse to inquire into the causes which produce the variety in the forms, grades, &c of our Summer & Autumnal disease. I shall only observe that ~~most of them may be discovered~~ they are chiefly to be sought for in the sensible & insensible qualities of the Atmosphere ~~&~~ in the course of winds, and in the qualities of the ~~Element~~ aliments of different years.

We come next to mention the causes of the disease which is the subject of our Oration. These are chiefly

~~Only Fevers~~ while foreign Countries are obliged to look for their ~~to~~ epidemics in exhalations from Volcanos — & wells, or springs of water, ~~which arise~~ in addition to

V

VI They are more or less active according to the sources from whence they are derived. The exhalations ~~of~~ ~~from~~ cities ~~are~~ filth is more active, than ~~in~~ ~~those which are in the~~ ~~to~~ from marsh exha-
-lations, & the exhalations in cities from Docks & cellars, & the holds of ships more active than from Sheets & Gutters

~~putrid~~ exhalations from ~~an~~ putrefied vegetable & animal matters. ~~we~~ bad water. are under no necessity of extending our views beyond the last source that has been mentioned to account for our annual Epidemics.) upon the subject of exhalations in our Country, I shall make the following remarks. —

1 They ~~consists of~~ are derived chiefly ~~of~~ from putrid matters of a vegetable nature. These are

2 These exhalations are the product of certain degrees of heat & moisture. The most productive sources ~~of~~ are inoffensive when dry, or covered with water.

3 They are conveyed to ~~a~~ a considerable distance by the Winds. In some instances to two miles. Mr Lempriere mentions some facts which prove they are carried miles in the Islands of Jamaica.

4 They are most active ~~after~~ in the ~~sitting of the sun~~ running, and

in the morning. Their ~~in~~ are least so in middle of the day, and night.

5 They spread more in damp & cool, than in dry weather, & warm weather.
high situations - see vol. 5 p 105

6 ~~They are~~ Their activity is destroyed by cold when it ~~is a~~ produces ice. ~~It is likewise~~ They are ~~destr~~ suspended by heavy rains, & destroyed by them when they are succeeded by weather so cool, as not to admit of exhalation.

7 They are frequently accompanied ~~by~~ with an offensive odor ~~smell~~, but they exist sometimes in a very deleterious form, without being perceived by the sense of smelling.

8 They have hitherto eluded the inquiries of the Chemists. Some late physicians have been so far misled by their inability to discover them in the air by means of chemical agents ~~ignorance of subtlety~~, as to deny their action in producing bilious diseases. As well might they deny the existence of odors in the air.

~~because they are alike incorruptible~~ for they ~~like~~ ~~are~~ alike ~~incorruptible to the hot of the~~ resist ~~the~~ endeavorical experiments.

v 9 ~~Lastly their~~ It has likewise been asserted that ~~they~~ do not produce the diseases that have been mentioned ~~because, they do not act uniformly,~~ ~~&~~ because some of the filthiest cities in Europe are exempted from them, and because they do not act uniformly in our own Country. In answering the first of these Objections, it will be proper to remark that filth & dirt are two distinct things. The streets of a city may be very dirty, ~~and not filthy~~ that is, covered with ~~inoffensive~~ and composed of inoffensive clay, or sand, or lime, & tho at the same time be free from ~~those~~ those filthy veg: & animal matter which by putrefaction contaminate the air. This I believe is the case with Lisbon, & ~~Lond~~ some of the cities in Italy. To the

& a similar, ~~and~~ want of uniformity appears in the ~~production of~~ operations of our Climate appears in the size, & quality of grain ~~and~~ fruits & vegetables of all kinds

second Objection I reply that ~~those~~ the want of Uniformity in the exhala-
-tions of our country in producing diseases, depends
upon ~~many circumstances~~ their being combined
with more or less heat, or moisture, and ~~perhaps~~
upon the predisposition of the body from the
Ailments of the Season - but ~~opposite~~ different comments
of Winds, or the total absence of Wind - ~~but~~ upon the
Disproportion of temperature of the Air in the Day & Night - upon
the Quantity of dew - upon the early or late
appearance of warm or cold weather, all of
which vary in different years. The ~~frequent~~ more fre-
-quent prevalence of the malignant bilious
fever in our country, than in former years,
~~may be accounted for upon~~ requires a Specific
explanation. ~~The fact~~ Known the ~~long more~~ longer
encroachment which the heat of Summer has
made upon the ~~cool~~ Autumnal months a
longer period is given for the generation & ~~Accumulation of~~

~~putrefying~~ of putrid exhalations, and possibly further
greater concentration and activity. But the late increase in
malignity of our ~~bili~~ bilious ~~fever~~ disease must be
resolved chiefly into a more ~~active~~ highly active state ~~a change~~ in the atmosphere
from causes that ~~they~~ are as yet unknown to
us. ~~To the existence of this~~ It ~~has been~~ was observed
~~even since the days of~~ by Hippocrates, and has been
acknowledged by ~~many~~ physicians of ~~various~~ all ages &
countries. It is sometimes general over a whole
nation, again it is confined to cities ~~& provinces~~ Districts.
provinces & states.
It is ~~transient~~ sometimes permanent, ~~& again~~
but it is more frequently transient in its effects.
It discovers itself not only in a greater excitement
of the system in diseases, but in many changes which
take place in the animal & vegetable creation. Even
Fishes ~~& fishers & dies~~ feel its influence in this watery
portion of the globe. Of this, many proofs are to be
met with in the histories of pestilential diseases.
~~But waving all this~~ ~~Of~~ this solution of ~~the~~
want of uniform connection between ~~the~~ summer

& Autumnal disease of our country, & of ~~the most~~ ~~appearance of the bilious yellow fever~~ bad water & diet - fruit ~~in this~~ amongst ~~no~~ ~~and the~~ putrid exhalations be not admitted, I will add a fact that ~~establish this~~ all ~~cannot be denied~~ in favor of ~~this~~ its being derived exclusively ~~from~~ in all its forms from that source only, and that is - these never vary - While I admit ~~the want of an uniform~~ that putrid exhalations do not from the causes that have been admitted uniformly, or in successive years produce a bilious ~~& malignant~~ ~~have~~ diseases I will add that ~~they do~~ ~~do not existed there~~ it never has existed in any form ~~without~~ independently of them. ~~Examine the~~ From the plague of Athens, and the Intermittents of Campania, down to the malignant fevers of Philadelphia, and the Intermittents of the shores of Skuilkill, ~~very~~ in the year 1803, every form of Summer & Autumnal disease has existed ~~in~~ only in the vicinity of ~~putrid~~ noxious exhalations. It is

✓ of these fevers ~~the~~ nature sympathizes in
see p: 21 ‡ & p 220

✓ all the two states of Summer & Autumnal
disease originate from putrid exhalations. I
have mentioned all their sources, & the laws
which govern them formerly. we

† first mention all its Sources favors
Vol: iv also the 11 forms of Autumn fever
external & internal.

true these exhalations have not ~~only~~ always been derived from putrid vegetable & animal matters. ~~The~~ ~~effs~~ Equally baneful or sickly exhalations ~~have~~ spring from the bowels of the earth after an Earth-quake, ~~and~~ from ~~Chasms~~ fissures in mountains, & from wells, and pools of water have now & then produced ~~Epidemic~~ epidemic fevers. but these may be con-sidered as of an accidental or sporadic nature. They ~~seldom~~ appear but rarely, and seldom return in the same country. They are like the cases of malignant fever which are produced by a poisonous dose of opium or corrosive sublimate compared with those which arise from the ordinary exhalations of our docks and cellars. nor shall I here except the occasional ~~from~~ Epidemics which have arisen from scanty, or unwholsome diet in ~~foreign countries~~ distant ages & foreign countries. They occur but rarely, & ~~for~~ should constitute no Objections to ~~objections to the truth of~~ the general re-mark which has been delivered. During the prevalence

V+ we proceed in the 3rd place to ~~mention~~ enumerate

For this purpose it will be necessary to mention the signs of their presence in the atmosphere when they are disposed to produce the highest grade of ~~bilious~~ fever. ~~These signs as~~ I shall 1 mention such signs as as are external, & 2 such as appear in the human body. The external signs of a pestilential ~~atmosphere~~ Epidemic appear

the means of obviating the morbid effects of these exhalations upon the human body. ~~upon the human body. The first step for this purpose is to ascertain the approach of I shall begin~~ more especially when they are accompanied with that state of the atmosphere which disposes them to produce the malignant or pestilential form of bilious fever. ~~first we propose to mention its premonitory signs. These are external, & they are in the body.~~ ~~Many~~ many attempts have been made to discover by external signs the approach ~~of the violence of~~ and pestilential diseases, ~~in order to~~ guard the body against them. Diemerbroek mentions that ~~greater frequency~~ were sudden disappearance of birds that ~~are~~ common at the season of their flight, & a ~~the~~ greater frequency of abortions preceded the great plagues which he ~~witn~~ describes at Nimeguen. The approach of the malignant bilious fever in ~~our country~~ this city has been indicated in different years by the following signs. In the unusual violence in the diseases of the previous year or season. The intermittents

of 1791. & 1792 ~~did not yield so readily~~ assumed so inflammatory a ~~the~~ type, as to require bleeding, to prepare them for the use of the Bark, & the plenitude of most of the Springs which preceded our malignant fevers have called for more depleting remedies than ~~the same diseases~~ in other years, to cure them. Nature is uniform in these premonitory signs of ~~for~~ greater force in the diseases which precede pestilential fevers in other Countries. They occurred according to Dr Sydenham in the fever which preceded the great plague in London in 1665. They were observed likewise in a fever which D of this, ~~as~~ there are many hundred instances in the records of medicine. Even Dr Chisholm whose ideas of pestilence exclude ~~all~~ its connection with ~~extreme~~ the state of the atmosphere, has ~~[illegible]~~ added his testimony to the evidence of Ages in favor of this remark, & thereby refuted his ~~[illegible]~~ own doctrine of its contagious & importable ~~[illegible]~~ nature. He

V. total suspension of diseases of all kinds just before the appearance of a malignant Epidemic

~~The months of Ja in 17 were~~

Unusual healthiness in the months of preceded the bilious fevers of

I have ascribed this to the preternatural stimulus of the atmosphere ~~impregnated with dispos~~ overcoming the action of weak diseases.

vide vol. 3. p: 180 & 182. facts from Diamond

O It would seem as if great & mortal Epidemics ~~had~~ like the planets, had satellites revolving round them. for they are not only preceded, ~~by~~ but accompanied & followed by diseases which appear to ~~derive~~ reflect back upon them some of their violence & malignity. But there is sometimes an exception to this remark, for we ~~sometimes~~ now & then see a total ~~O~~ as above V

mentions its being preceded by a violent Eri-
-sepelas in the Crown, & accompanied by a
small pox equally malignant with itself
in another Island. ~~of~~ . It o + . ~~Sometimes there is a~~

2 ~~The malignant form of bilious~~ fever has
been preceded by a general sallowness in the com-
-plexions of our citizens. This has been noticed
by strangers. It occurs in other countries subject
to the same fever.

2 ~~They appear in~~
~~3 It has been preceded, & accompanied by~~ winds
from unusual quarters, or by unusual calms.
The winds have blown ~~for~~ more constantly from the S.W.
during our pestilential years than in former years.

3 Smokiness or mist in the Air. Drake says, ~~Its~~
this generally precedes a sickly season in the Delaware State.
~~The same state~~ a sickly calm attended the Epidemic
of 1793 in Philadelphia. A similar state of the Air
is described by ~~Dr~~ Maynard during the last plague
in London. His words are "There was a general calm &
serenity of weather, as if wind & rain had been ba-
-nished from the realm. I could not observe the
least breath of air to stir a vane, or weather cock.
Fires with great difficulty were made to burn, &
the very birds would pant for breath more

v Diemerbroeks facts – see Ambrose Parey's too
p: 3 of fevers in 1798.
predict as of Comets & eclipses
fevers.

especially ~~kites~~ & crows who were observed to fly more heavily than at other times."

4 ~~It has been preceded, by~~ They appear in unusual sickness & mortality among many birds & brutes, more especially wild pidgeons & cats.

5 The common house fly has disappeared from our ~~cities, & unusual insects of have appeared, & cities,~~ cities & mosquitoes have been multiplied, & some new insects have appeared just before, or during the prevalence of our late malignant Epidemics.

6 ~~The leaves of~~ Certain trees have emitted an unusual smell, and of ~~others~~ the leaves of others have fallen prematurely, and the ~~fruits flavour~~ fruits have been less in size, or of an inferior quality in the summer previous to several of our malignant Autumnal fevers.

7 ~~The~~ Dr Oliver has taken notice of ~~a change from~~ the paint ~~in~~ white ~~to a dark color in~~ upon the boats in the harbour of Boston being changed to a dark color during the prevalence of the malignant bilious fevers in Boston in the years

~~7 The~~

V fatigue & sweats from light exertions -- hands when rubbed emitting smell like Hep: Selph: - ~~burn~~ & sense of burning from wine in the mouth -

The signs of the presence of exhalations ~~in the human body~~ as ~~human body~~ which produce a yellow fever are as follow.

1 A sudden cessation of an old, or chronic disease, or a conversion of a periodical into a continual disease. ~~It you know~~ Of this there were many instances in Philad^a in the year 1793.

2 The breaking out of old sores, or of fresh eruptions upon different parts of the body. The prickly heat & the nettle rash are the effects of the de

3 I have observed a head ache, ~~or~~ a decay or evenness of appetite, ~~or an~~ costiveness, a diminished, or increased secretion of Urine, constant sweats & sometimes of a fatid nature, or a dry skin, wakefulness, or a disposition to early or preternaturally frequent sleep — unusual vivacity, or depression of spirits a yellow color in the face — a red, or yellow eye — ~~have all been observed~~ in persons who were exposed to the exhalation of our annual Epidemics, and who ~~did~~ were not confined, & who could not believe they were predisposed or prepared by any of those symptoms to the disease.

v ~~The first~~ where flight is practicable it should be resorted to in every case. The heights of Germantown & Darby have for many years afforded a secure retreat to the citizens of Philadelphia from their late annual Epidemic. ~~Near the western Belts of the city~~ ~~The~~ In quitting a place infected by ~~foul air~~ morbid air, care should be taken ~~not~~ to expose the body to great cold, heat, or fatigue, for ~~the~~ where the System is tainted, the least exciting cause ~~often~~ rouses it into action with it, & ~~and dealone~~ effectual by inducing the disease, ~~and~~ sometimes death, where safety was sought. But when flight is impracticable, or inconvenient ~~a~~ safety should be sought for in such means as induce ~~the~~ the tone & strength of the System. These are of a depleting ~~Remedies~~ nature. ~~That often~~

The means of preventing the summer, & autumnal disease of our country come next under our consideration. I shall first mention such as have been most effectual in guarding against its most malignant form, and afterwards, take notice of such as are proper in its milder grades. I shall I speak of the means proper for individuals. Then of 2 means to defend whole communities.

~~I. In the diet should consist chiefly~~

I of the means proper for Individuals.

The System when impregnated with miasmata is under the influence of a preternatural stimulus, and from the suppression of customary excretions is often in a plethoric state. The prophylactic remedies should therefore be such as are calculated to lessen this stimulus, & to obviate the preternatural fulness of the bloodvessels.

~~They Diet The first remedy for this purpose~~

1. A spare diet, ~~conformed~~ accommodated to the greater or less ~~degree~~ exposure of the body to the action of miasmata & to the greater or less degree of labor, or exercise which are taken. ~~In the~~

V The Bramins who live wholly upon vegetables, escape the malignant fevers of India, while the Europeans who eat animal food die in regiments around them. People in Minorca who live mostly upon gardens ~~[illegible]~~ & the plenty of fruit escape the fevers of the Island. The full negroes of South Carolina owe their exemption from the bilious fevers of that state to the same cause, while their masters often die, or suffer with it. Or bow diet acts in two ways. It not only lessens the quantity of blood, & the force of circulation upon the blood vessels, but it induces such a debility upon the system, as disposes it to vibrate more readily under the impression of the miasmata - thus the willow bends before a blast of wind, while the embending oak is torn up by the roots. It is from this vibratility in the systems of women in the West Indies, that they escape the endemic fevers of the Islands. The

~~the~~ year 1793 I lived for ~~nearly~~ 3 months wholly upon ~~milk~~ ~~vegetables~~ tea & coffee with a small quantity of milk & vegetables, but I ~~d~~ for cases of great exposure to an ~~impure~~ infected atmosphere ~~the~~ with but little exercise, the diet should be simple in its quality, & small in its quantity. A little salted ~~fish~~ meat, also a little cayenne pepper when taken with ~~milk~~ ~~&~~ vegetables, ~~prevents the stomach & also a small quantity of the cayenne pepper~~ prevents an undue languor of the stomach from ~~its~~ a want of its customary aliments. Where ~~the~~ body is ~~by~~ but little exposed to foul air, ~~&c~~ and much exercise taken, Broths, & a little wine, or malt liquors may be used with the fruits & garden vegetables of the season with advantage. ~~The diet~~ The change from a full to a low diet should be made gradually. ~~when~~ when made suddenly it ~~accumulates a predisposition~~ increases the predisposition to disease by accumulating the excitability of

more than protestants from it in plague. Howard. also in 1793.

v also by fires. ~~to~~

Leave de

the system. ~~Long fasting to be avoided. Cathartics suff~~
~~to open the bowels & then~~
a 2d depleting remedy is gently laxative medicines.
~~2: gently laxative medicines have been found~~
effectual in many instances in preserving the
body ~~from the~~ an attack ~~of~~ malignant disease.
Hundreds in Philadelphia owed their lives to
the occasional use of a ~~few grains of~~ a calomel,
pill, a few grains of Rhubarb, ~~&c~~ or a spoonful
of sweet or Castor Oil during the ~~Sea~~ autumn of 1793
a 3. ~~The fulness of the blood vessels and the predisposing~~
~~cause~~ depleting ~~prevention~~ consists in keeping up a con-
~~cause~~ ~~or the may be obviated by~~
-stant ~~perspiration~~ perspiration, or rather a moderate degree
~~discharge from the pores.~~
of sweat by means of warm clothing, and
bed clothes. ~~The discharge~~ excretion which takes place by
the skin is a discharge of the first necessity. I
never knew an instance of a person living at-
-tacked by our malignant fever in whom this discharge
was constant, and equably diffused all over
the body. ~~It~~ Its effects have been equally salu-
-ry in preventing the plague. ~~So~~ So well known

v upon the System as disposes it to vibrate more readily under the impression of the miasmata. Thus the Willow rises after bowing before a blast of Wind, while the unbending Oak is torn up by the roots. It is from this Vibratility of the Systems of women, in the West Indies, that they escape the endemic fevers of the Islands.

is this fact, that Mr Volney tells us in his trav=
=vels ~~into Syria~~, that the common salutation du=
=ring the prevalence of the plague, is - not how do
you - "But "do you sweat freely"?

a 4th of depleting is Bloodletting. Dr Mitchell in
a manuscript Act of the yellow fever which pre=
=vailed in Virginia in the year informs us that
it was often prevented in persons who were predispo=
=sed to it by the loss of a few ounces of blood. ~~The~~
~~The French to~~ It was formerly a practice among the physicians in
~~the French Islands~~ Domingo to bleed their troops as soon
as they ~~came ashore~~ arrived from France, ~~as~~ by which means
they were preserved from the malignant disease
of the Island.

These remedies whether used separately, or to=
=gether induce such an artificial debility ~~to prevent~~
~~the palsy to~~

a IInd Class of preventives of malignant fever
are such as ~~prevent~~ obviate the internal action of Miasmata
~~wh~~ by exciting a ~~contrary~~ general or partial ~~inflammation~~ action ~~in the~~

the external surface of the body. 28
~~system~~. These are

1 ~~Their~~ The warm Bath. I have known this grateful remedy used with success in our city. It serves the double purpose of keeping the pores open by ~~the~~ defending ~~the~~ keeping the skin clean, as well as ~~keeping off~~ what are called the ~~determination to the~~ vital organs from disease by ~~drawing~~ inviting its predisposing cause to the ~~top would imp~~ the external surface of the body.

2 ~~Bathing~~ washing the body with salt water every morning & evening ~~Bathing~~ has had the same salutary effect in the West India Islands. ~~The salt~~ ~~of salt~~

~~The application of oil to the body~~ ~~accounts~~ Anointing the body with oil ~~when~~

3 ~~has~~ ~~I know not whether to include~~ has been used with success in ~~applied to the body among the~~ ~~of~~ producing a ~~an external~~ ~~action~~ centrifugal determination of the fluids. — The natives of Africa use it with advantage during their sickly seasons. It has lately been used ^ great ~~effects~~ effect in ~~the forming stage of~~ preventing the plague. Its efficacy was suggested first by ~~an~~ Dr Oil man

v 4

Dr Baynard has left it upon record that those persons who lived in ~~water~~ watermills, also water men - Bargemen & fishermen who were employed on the river or in dabbling in cold water were rarely infected with it by the plague of 1665, and that but two persons died on London Bridge. ~~with it The two Dr also reasons given by the Dr for the salutary effects of the water disease on people. Its acts acts by wp. 224~~ The Ablutions enjoined by the Jewish religion serve the same salutary purpose. ~~Olivier says people who dabble much in water escape it. Clean birds in linnen ~~[illegible]~~ to be advised.~~

having died ~~during~~ of it during four years in which time 100,000 perished with it in Egypt alone. Olivier says - the Better men are equally fortunate in escaping it.

4 The Cold Bath, or Cold water applied to the ~~cold~~ external surface of the body. Ulloa tells us in his travels through Cuba, that the Spaniards make it a practice when partially wetted by the rain, to plunge themselves with their wet cloaths on into the first stream of water they meet with afterwards, ~~with~~ by which means they avoid taking the fever of the Island. ~~The Certain African tribes have been informed~~ The water carriers at Cairo whose ~~cloaths~~ cloaths & skin are always wet, ~~generally wet~~ ~~in a constant~~ Volney says uniformly escape the plague. Dr Chisholm informs us that those negroes in Demerara, who go naked, and are thereby less disposed to avoid ~~exposed to the~~ rain, & ~~water~~ ~~the~~ water, ~~of the~~ are never affected with the fever of that Country. Does the ~~wet~~ cold water in these Cases act only by producing reaction in the System, & thereby fortify it against the

impression of ~~febrile~~ pestilential miasmata? or does the water ~~destroy them &~~ prevent their morbid effects by simply washing them from the body — or does it destroy their activity by mixture, or dilution? — Let ~~time~~ future observations & experiments answer these questions.

5 Issues, setons ~~& [illegible]~~ & Blisters ~~have been~~ belong to this class of preventives of malignant fevers. Dr Hodges ~~defends~~ I have said vol. 5 p 124 was preserved from the plague in 1665 by a constant discharge from ~~a [illegible]~~ an issue in his leg. Another person who owed his preservation to the same means, used to say he could always tell when ~~he was with~~ ~~in the~~ any of the company he happened to meet, ~~in~~ was infected with the seeds of the plague by feeling from their breath, ~~an~~ a burning pain in his ~~ip~~ artificial sore. Dr Gallaher ascribed his escape from the Epidemic of 1799 to a ~~[illegible]~~ which he applied to his arm for ~~[illegible]~~ a blister ~~be kept open upon~~ that purpose. ~~Dr Beach was~~ Dr Barton favoured me ~~by a letter from Dr~~

with the sight of letter from Dr James Stevens,
Dated Jan. 12. 1809.
in which he says, that Dr Beach relieved by
protected from ~~an~~ the bilious fever by an setton
in his side ~~so that the Doctor had in addition~~ by
~~to this fact he add~~ He adds further, that Dr
Beach had been called to attend ~~100~~ the labourers at
Onondaga in the state of New York out of 100
the salt spring, ~~& also~~ 98 of whom had
the bilious fever. Of the two who escaped it,
one had a sore leg, the other a ~~running tumor~~ scalded head.
~~from bur~~ The discharge from these sores, as
well as from the Doctor's issue was more co-
-pious during the prevalence of the fever, than
they had been at any other time. —

A 111 Class of preventives of malignant fever
are such as excite a general action, ~~either~~ more
powerful, ~~or of a contrary nature~~ than ~~to that~~ which
~~a~~ the miasmata are disposed to create in the
System, or of an action of a contrary nature.

These are 1: ~~wine and moist spirits garlic.~~
~~the~~ onions & garlic.
~~the~~ There was not a single person affected by

the malignant fever in 1793 who used
~~of~~ these vegetables in his diet. The escape of
several thousand french citizens who com=
=posed part of the inhabitants of our city
in that year, was ascribed in part to their
liberal use of these ~~article~~ condiments in
their food. The Jews, it has been often been
said, have owed their preservation to it from
the plagues of Europe. It is probable the
Leeks & onions ~~in~~ were ~~was~~ introduced there
~~general use~~ of ~~these~~ ~~Egypt~~ ~~was in~~ ~~because so~~
~~general use~~ into Egypt as the means of ob=
=viating the plagues of that country. I have
been at a loss to know why the Author of nature
who has endowed these vegetables with so many
excellent qualities ~~for~~ diet & medicine, should
have accompanied them with such a disagreeable
Smell. Perhaps the reason was kindly to force
it into universal use, for it is remarkable,
~~this~~ their Smell ~~of it~~ is imperceptible to those who

v the air extricated from fermenting wines,
during a plentiful vintage once checked the
ravages of a plague in Germany — tempts
by Sal Ammon. ~~respir.~~
2 ∓ small doses of Colonel ~~taken so as gently to~~
~~have an general on.~~
affect the ~~mouth~~ breath or pulse, have in several instances
prevented attacks of ~~an~~ Epidemic malig.t fevers. It
preserved the Crew of a Russian Ship at Plymouth
in the year 1771 from a fever generated by filth in
her hold. In a letter which I rec.d from Capt. Fenton
in the year 1797, he informed me ~~that at Batavia~~
a old & respectable merchant ~~at Batavia~~ Batavia had assured him he had
been preserved by ~~it~~ it ~~of during the~~ in good health above 30 years in
~~the E. Indies~~ the E. Indies, a place where according to his ges. Statement
half the new comers die every year of malignant fevers.

use them. ~~Under this head it~~ ‡ 2ly

[2 Certain ~~Odors~~ matters which act powerful upon the sense of smelling ~~have been proved to~~ belong to this class of preventives of malignant fevers. Mr Bruce & Dr Clark ascribe great virtues to the smoke of Coal & wood for this purpose. The smell of tar defended the ship wrights from the plague of 1665 in London. The Island of Smate says Mr Boyle ~~was healthy~~ was celebrated for its healthiness before the trees which ~~produced the~~ close ~~close~~ exhaled a constant odor through it, were destroyed. Even fetid odors have ~~acted as~~ ~~presumed~~ the same salutary effect. of this kind Mr Bruce Parry relates a remarkable fact. He says a plague was once checked ~~by~~ in a city of Italy by killing a large number of ~~all the~~ cats & dogs, & suffering them to exhale their ~~putrid~~ fetor in the streets]. ~~I have said~~ ~~these~~ how do they all act? 1. 2. 3ly.

3 Spirits & wine have ~~often~~ sometimes been resorted to as preventives of pestilence, but I believe they have ~~sometimes~~ generally ~~been hurtful done more~~ increased, instead of lessening the predisposition

of the body to an attack of the disease, by rea-
~~ting a~~ They are ~~bad~~ effectual, ~~their tinctures shd~~
~~be constant, and to~~ only when they produce
constant intoxication, for disease & death
are the certain consequence of that ~~debility~~ state of
weakness & excitability which succeed the
~~least interval~~ excessive & intemperate use of
those liquors. I have known three instances
of ~~persons who be were habitual~~ Drunkards
surviving ~~one~~ two of our most fatal Epidemics
~~who are constantly exposed to their~~ but
neither of them was sober a single hour
during the six weeks they prevailed in our
city. nor ~~in the~~ any of the ways in wh it is used,
48 Tobacco ~~has sometimes been used~~ been found
to be any more useful that Ardent spirits & wine
in preventing malignant disease. Mr Howard
says no benefit was derived from it in the plague,
and many hundred of our citizens can bear
witness of its ineffectual use in guarding against
the ~~yellow~~ successive malignant Epidemics of our
city.

5.
2
2
2
2
a
1

5 ℔ Camphor ~~by~~ suspended in a bag round the neck, and Rags wetted with Vinegar, applied frequently to the nose afforded no ~~some~~ safety from the malig.t fever of 1793 ~~than~~ ~~tobacco~~. It is probable they ~~cap~~ encreased the predisposition to it by ~~affording a vehicle in~~ entangling ~~& conveying~~ ~~by~~ ~~t~~ in their ~~these fine~~ volatile ~~particle~~ particles ~~to the~~ more ~~of the~~ morbid miasmata ~~which produced the disease~~. a thus ~~thus~~ in some instances encreased the predisposition to the disease.

a Class IV Among the preventives of malignant fever, certain substances have been recommended w.h. it is said destroy ~~the~~ miasmata ~~which produce~~ by entering into mixture with them. Two persons who ~~took a table spoonful of sweet oil~~ were constantly exposed to the fever of 1798 ~~escaped the it db~~ took each a table spoonful of Sweet Oil every morning ~~to which they avoided~~ They both escaped the fever. ~~If~~ Did the Oil in this cases act by destroying the miasmata in the Stomach ~~on which they appear to~~ chemically or did it defend the Stomach mechanical from their action? Or did it prevent the

disease only by keeping the bowels gently open? It is certain the fat of pork protects the ~~bowels from cold & bowels of the~~ men who work in the lead mines in Britain from the deleterious effects ~~of~~ which the fumes of that metal ~~lead, &~~ are so apt to bring upon the stomach & bowels, ~~and it is certain~~. A poisoned arrow will not injure a hog, if it be arrested by the fat which lines his sides ~~& I said formerly~~ Dr Ramsay's fat. ~~that sweet oil~~ I said formerly that ~~sweet oil~~ the application of sweet oil to the body has lately becomes a popular ~~remedy for~~ mode of preventing ~~a preventive~~ the ~~Asiatic~~ plague, & that many thousand persons who ~~dealt in~~ handled it as an article of merchandise, had escaped that disease during four years of its prevalence in Egypt. ~~It~~ Possibly the effluvia emitted by the oil, by uniting with the miasmata may have aided its good effects in preventing the disease.

2 The vapor which issues from fresh earth

V Tubs of water in sick rooms in fevers of 1797. see page 121 vol 5.

Bathing in Salt Water. mos: Bartram

Smell of the goat — Tanpits — Sal Am: manufs

Long interval between remote & predisps causes & an attack.

has been supposed ~~to~~ destroy the miasmata which produce malignant fevers by entering into mixture with it. ~~many~~ most of the persons who were employed in ~~cleaning~~ removing the dirt from the streets of Philad^a also in digging cellars & graves in ~~the year~~ 1793 escaped the fever of that year. In the new settlements of our country it is said the poison of ~~a bite~~ the Rattlesnake is ~~disarmed~~ deprived of its deadly effects upon the body by ~~thrusting~~ thrusting the wounded limb into a hole in the fresh earth. The fable of Antaeus ~~is said to~~ who rose ~~more~~ ~~vigorous in~~ with renewed strength from the ground ~~as often~~ after an fell, ~~in~~ was probably intended to signify among other things, the ~~so~~ ~~healing~~ salutary virtues contained in the ~~in~~ effluvia which issues from ~~upon~~ ~~the fresh~~ the clods ~~earth~~ of earth which lie immediately below its surface.

In addition to all the ~~pan~~ modes of obviating an attack of malignant fevers when exposed to ~~that~~ it remains that I mention, the avoiding all its exciting causes. ~~These~~ are great heat,

has been said of the effects of fear
& much of fear. The absence of it is no protec-
-tion, ~~no more than it is from a musquet ball in~~
or the city of Philad^a would not continue even
at this day to deplore the loss of her intrepid Patriots: her
Penningtons & her Wars and & her Cooperes & many other of her
citizens who ~~were strangers to fear, & who~~ have fallen in the successive Epidemics
of our city.

~~I have said nothing of avoiding all intercourse~~

+ In large families w^ch ~~were~~ are affected by the
fever, ~~the~~ a maid is often the only person
who dies wth it owing to her being pred^d by ~~the~~ excessive
debility by the ~~labor~~ & unusual services ~~of attending the~~ to which
~~be the is exposed in~~ ~~which is obliged to perform~~ the
malign^t attack of the disease than those
~~who have~~ branches of y^e family who survive
her.

fatigue more especially from 38
and cold, labor or exercise not of an habitual
relinquishment of former employment
nature. The miasmata which produce ma=
=lignant fevers often ~~sleep~~ exist in an inoffensive
~~system~~ state in the body for weeks or months, and
grow out of it without doing any harm. Unlike
the seeds of contagious diseases, they generally require,
with but few exceptions, an exciting cause
to rouse them into action. These causes are
1 heat, 2 cold, 3 fatigue more especially from un=
4 fasting + 5 intemperance in
=usual labor or exercise — intemperance in
eating & drinking, and 6 intemperance in the use of improper alimentary drinks,
7 all violent emotions & pa=
=ssions of the mind. The degree of caution with
which these exciting causes should be avoided, shd
be regulated by the quantity, and activity of the
miasmata which dispose themselves in the
~~which are here (as stated in the preceding mentioned)~~
by the signs of their presence in which are of a
body. ~~There are~~ In epidemics ~~of a moderate~~
moderate degree of malignity, ~~but little~~ less or no change
~~should~~ will be necessary ~~the~~ in the manner of
living, than in those which are malignant
in the highest degree. In the latter, no new

V

wth a voice so loud
I could speak ~~so that the~~ as to be heard ~~by the whole~~
the shores of the missisippi, — citizens of U States not
~~United States~~ I would say — ~~not~~ Beware of Contagion
— for the malig fevers of our country are not propagated by
it ~~contagion~~ — nor sh'd I say, Beware of putrid exhalations —
where the duties of humy or consanguinity require:
attendance upon the sick — But Beware of exciting
causes ~~Dus~~ wch have been mend: during the prevalence of
all ~~the forms~~ malignant forms of ~~the~~ our Summer & autumnal disease. —

from the waters of St Croix, to

Beware the

~~I have said nothing of avoiding all inter=course with the sick in order to prevent the disease, because ~~I do not~~ it is not propagated by contagion. In places not infected by morbid at=mosphere ~~it may~~ the most laborious offices of humanity may be performed to the sick, & in places wch are so, the sick may be visited, & even attended with safety by yr friends, provided they avoid the exciting causes of the disease before mentd:~~

aliment should be tasted, and even customary
acts of labor & business should be suspended.
The inhabitants of Constantinople & ~~Smyrna~~
erroneously ~~& nearby~~ suppose they escape the contagion of
the plague by shutting themselves up in their
houses during ~~the time its~~ its prevalence, but
they owe their safety wholly to their being re-
moved ~~beyond~~ by rest, & a total exemption
from care & business from all its exciting
causes. Confinement is more certain in ~~which~~
effects where persons occupy the upper only stories
of their houses ~~only~~. The inhabitants of St.
Lucia Dr Chisholm says by this means often
escape the ~~bilious~~ yellow fever of that Island. ~~It has been~~
~~now~~ such is the difference in the ~~pure~~ healthiness
of the air ~~in the~~ between the upper & lower ~~of~~
~~floor of~~ stories of a house, that birds live in the
former, & die in the latter, during the prevalence
of a plague in the Eastern Countries. I am so
much impressed with a sense of the general necessity of the
cooperation of exciting causes to produce the malignant
fever of our country that if

* Or in other words by <u>living above it</u>. I advise ~~by~~ bending to the storm of malignant fevers, in order to ~~wild Autumnal fevers~~ suffer them quietly to pass over the system. wild Autumnal fevers should be opposed by means which enable the system to strike its roots deeper into the earth, & thus to prevent its ~~being~~ ~~bending~~ being torn ~~upon the roots~~ ~~or~~ from bending before them. The ~~Remedies~~ precautions for this purpose should be —

* Dr Blane says the soldiers in the British army who were up subject to Inter. fevers than the neighbouring people. & it is well known the American army were much less afflicted with ~~fevers~~ fevers & ague after they exchange ~~Ration~~ fresh for salted rations of beef & pork.

Dr Dow & B Humbolt facts of Chang of Air & Mexican air thus checked by nature by frost heavy ~~rain~~ rains & change of wind. Dr Irvine. Vol: V of med. Jurg: p: 19.

In the mild grades of the Summer & Autumnal fevers of the United States, the means of prevention are different from those which are proper to prevent its in its malignant forms. The latter - below it - They consist of such things as gently invigorate the system, & thus create an action superior to that to which the Body is ~~predisposed~~ exposed by the miasmata which ~~which~~ have been imbibed. ~~in other words~~ ~~They practice a living above. The one leading to the storm the other leading down~~ ~~content to destroy it by opposing it~~ I cordial diet & drinks, consisting of salted meat and fish, with a moderate quantity of wine, or malt liquors. Spirits should be used cautiously, for when used long can to do good - they create a habit ~~of~~ a dangerous attachment to ~~[illegible]~~ them. A strong infusion of any bitter herb in water taken upon an empty stomach is a cheap & excellent substitute for all the above liquors, where they cannot be ~~aff~~ afforded. ~~water so healthy~~ ~~that~~ The late Prof. Gregory used to tell his pupils that out of 25 ~~English students~~ young English men who were his fellow students at the University of Leyden

Dr Lind tells us

✓ The farmers of Walmer, ~~not long lived~~ who
~~constant~~ went out early to their work, were
rarely long lived, probably from inhaling
miasmata with the morning air.

3 + all ~~great cautions should be~~ the exciting causes of fever formerly
mentioned should be avoided with uncommon
care ~~is~~ 3 days before & 3 days after the full &
change of the moon.

among whom was the late John Wilkes, ~~twenty four of them escaped an Epidemic intermittent~~ ~~upon inquiry it was found they all drank wine daily. The only One who was~~ ~~One of them only was affected by an Epidemic Intermittent which prevailed in the tower. He drank water only - The~~

~~twenty four of them escaped an Epidemic which prevailed in the tower, They all drank wine daily. The only one of their number who was affected by it drank nothing but water.~~ Bark ~~wine~~ has been taken daily with advantage as a preventive of the intermittent fever. ~~In addition to~~ With these cordial articles of diet & medicine, perspiration should be kept up by ~~warm~~ & warm drinks and warm clothing. - the early morning, & the evening dis-
-ps. be avoided. - fires shd be kindled in cool & damp
weather, ~~and~~ also in the mornings & evenings in
common sitting rooms - ~~and~~ By these means thou-
-sands have been preserved from mild remitting and
intermitting & chronic fevers in the most sickly seasons,
and countries. +

The intestinal state of our Summer & Autumnal

Mr Dewar tells us
The French Soldiers ~~who~~ while in Egypt,
carried pepper boxes with them to eat with
the fruits of the Country wherever they went,
and thereby escaped the diseases of the Country.

disease - requires ~~[illegible]~~ several spec-
-fic means to prevent them, different from those
which are proper to defend the blood vessels from it.
Unripe, and decayed fruit should be avoided while
that ~~the~~ which is ripe & sound should not be
~~taken~~ eaten in an excessive quantity. Spices & particularly
Cayenne pepper & the red pepper of our Country
should be taken ~~with the~~ daily with food, as Some
days the inhabitants of the Country he visited made it a practice
~~to~~ in the season of Bowels complaints to eat
pepper in such quantities as to excoriate their
throats ~~with it~~. The whole diet should at such
times be of a cordial nature. A Dysentery prevailed
~~[illegible]~~ a few years ago ~~to prevail only in the neigh.~~
of Georgetown in Maryland ~~[illegible]~~ only among
~~only to~~ protestant families. The ~~members of the~~
Catholics who ~~lived on~~ in conformity to the
of the Canons of their Church ~~lived eat lived~~ eat meaty & some-
-times oftner of salted fish ~~was~~ very generally
escaped it. In the year 1764 ~~while I was a student~~ a Dysentery broke

v It was once prevented in all the boys of the Bordentown Academy while it was epidemic in that town, by giving them Molasses in large quantities in their Diet & Drinks. It probably acted only as a purge.

out in the Village of Princeton & affected many of the students of the College. ~~It was~~ It was remarkable it prevailed by all those boys who came from the cities of Philad.a & New York. This was ascribed to their habits of living ~~upon~~ more upon tea & coffee than the ~~farmers~~ farmers sons, for those articles of diet were ~~then~~ but rarely used ~~in~~ 45 years ago in the farmers houses ~~of the~~ of the United States of America. ~~Country~~. It is probably ~~to this~~ the more cordial nature of the diet of the inhabitants of our cities than of Country places, that the Dysentery is so ~~rare a~~ rarely prevails in them. I have never seen it Epidemic in Philad.a —

Another means of preventing ~~the~~ Dysentery is to avoid Costiveness, & to cleanse the bowels when they are in a natural state. ~~It is generally received in~~ ~~by it~~. A Captain of the militia of Pennsylvania preserved his whole company from a Dysentery which prevailed in a part of the American Army at Ticonderoga in 1776 by giving each of them a purge of Salt Water. He preserved his family & many of his neighbours some years afterwards from the same disease by dividing among them a few pounds of Glauber Salts.

~~500 persons~~

V 2 ~~The plague says~~ Porchas destroys 500 persons less the day after ~~the~~ Nile completely overflows its ancient bounds, than it does the day before. ✝ Or the matters which ~~to this was done with herbs by Empedocles by~~ produce ~~nasty fumes~~ there may be washed away by ~~large~~ streams of water? Empedocles checked the plague at Selinis by pouring the streams of two neighbouring rivers upon the filth which produced it. V Porchas tells us ~~the plague destroys~~ that 500 people die less, the day after the Nile completely overflows the grounds which emits putrid exhalations than died the day before. see above ✝

as the Dysentery ~~so~~ is often excited by the damps of the night air, great care shd be taken ~~to defend the~~ avoid it, or ~~bowels~~ more especially when exposed to it, to defend the bowels by ~~an~~ warmth, than ~~extraordinary~~ other parts of the body. The Egyptian bandage or belt shd be used for this purpose.

II. I come now according to the Order proposed, to mention the means of ~~preser~~ preserving whole cities, or communities from the influence of those morbid exhalations which produce the malig.t forms of the summer & autumnal disease of y.e United States.

As the flight of a whole city is rarely practicable, ~~it~~ will be necessary to seek for the means of destroying the morbid miasmata.

Where the putrid matters which emit them are limited of a small extent they may be ~~removed~~ ~~covered or~~ covered with earth or water. ~~The malignant bilious fever was~~ ~~Bad~~ During the prevalence of a malig.t fever it will be unsafe to remove ~~them~~ filthy matters. A plague was generated by an attempt to clean the filth ~~from the~~ which had accumulated

V by means of mixture, or by creating a new action in the System. The Air extricated from fermenting Wines during a plentiful Vintage is said once to have checked the ravages of a plague in Genoa:
=ny. ~~The effluvia bus~~ Ambroze Parey says the plague was once checked ~~by~~ in a city in Italy by killing all the Cats & Dogs in the place, & suffering them to putrefy in the Streets. The yellow fever has never appeared in the Salt ~~&~~ Ammoniac manufy near this city, & rarely in the vicinity of ~~our~~ the Lanpitts in its Suburbs — perhaps from the effluvia emitted by them. It has been said that the plague has never visited London since the ~~Sea~~ use of Sea Coal for fuel. It is possible its smoke may have been useful, but other causes have contributed to prevent it, former=
=ly mentioned. —

on the banks of the waters which surround the city of Mantua during the summer & autumnal months. even a shower of rain by disturbing a pellicle which sometimes is formed over ~~putrid~~ putrid matters, has ~~let~~ more than once let loose ~~so~~ exhalations that ~~the~~ have produced a pestilential disease.

2 Lime has been found to be a powerful antidote to ~~putrefying~~ the Air extricated by putrefaction. It has often been thrown into privies with obvious advantage in sickly seasons. How far it might be employed to destroy the foul Air of Docks, Ships, & Cellars & common sewers ~~&c~~ remains yet to be determined by future experiments.

3 Impregnating the Air Rivers &c with certain effluvia ~~&c~~ which acts ~~in~~ either by destroying miasmata, ✓

4 Mr Morveau has lately proposed the muriatic gas as a means of destroying miasmata. However effectual this & the nitrous gas may be in

V of preventing pestilential diseases. His
name sake Varro a Roman general was
exposed with a large fleet & army at Cosy=
=ra to a malignant fever. He discovered the
cause of the miasmata which produced it
to be from the South - in consequence of
which he fastned up all the Southern
windows & doors of the houses in which
his troops were quartered, & opened new ones
to the north, by which means he preserved
his troops from the fever which prevailed
in all the other houses of the neighbourhood.
Mr Howard advises keeping the doors & windows
of houses exposed to the plague, constantly shut,
~~during~~ except during the period of Sunshine.

destroying the foul Air generated by, & discharged from the human body in confined & filthy situations, neither of them is calculated to oppose the seeds of a disease which exist in the external Atmosphere & spread over a large extent of a city or country. Mr Morveau indeed tells us his his Ammoniac Gas checked the late malignant fever of 1801 at Cadiz - ~~but we to but it~~ To refute It was used late in the season, at which time ~~it and~~ it is much more probable the disease was destroyed as it is in all other countries in middle latitudes, by cold weather. Tubs of water in 1797.

Varro in his ~~treatise~~ upon agriculture mentions a curious fact upon the means of ~~The~~ explosions of gunpowder has been proposed to change the state of the atmosphere, but no benefit has ever been derived from it.

~~The~~ Large fires have been made in the streets of cities ~~have been made in~~ for the same purpose, but without ~~producing~~ producing any good effects. ~~Thomas Hodges says~~ They were hurtful in the ~~great~~ last plague of 1665 in

+ Interposing Rivers – water &c.

v ~~Dress~~ In the character given by Luther of Pope Julius, he ~~ascribes as~~ says "he kept the Streets of Rome, so clean & sweet, that there ~~was~~ were no plagues, nor sickness during his time"!

~~Rome during the time of Pope Julius~~ 2nd.

~~see Luther~~ –

who relates this fact, says "heaven
London. "~~Heaven says~~ Dr Hodges, swept for the mistake
of ~~the citizens~~ kindling them, & mercifully put
them out, with showers of rain". +

III We come now in the last place to mention
the means of exterminating the ~~a pest~~ summer & autumn
diseases ~~of our country~~ by removing its causes.

~~Hence~~ These means are

1 The removal of all those ~~animal putrefactive~~ sources of putrid
& unhealthy exhalations ~~from~~ formerly known: from
marshes ~~from~~ our cities which are capable of prod:
fevers, ~~particularly the filth~~ ~~[illegible]~~ ~~during warm~~,
~~and putrefaction~~. ~~The~~ cities of Holland and the
& ships, from ~~which diseases~~ must prove, have become healthy by these
the theatre of disease, have become healthy by these
means. ~~The~~ many of the institutions of the Jewish nation
~~needed~~ for ~~preserving clean liness & health in~~ their
removing filth of all kinds from
camps & cities are well worthy of our notice & imitation,
for moses the ~~illustrious~~ enlightened Author of them was
a firm believer in the Domestic Origin of pestilen
-tial diseases. the provinces of Holland ~~of~~ ~~[illegible]~~ owed their exemption from
the plague, only by the house of their cleanliness.
The city of Oxford ~~who~~ ~~[illegible]~~ ~~escaped the plague~~ was preserved to
~~which escaped London & many~~ ~~other~~ parts of

which had
been ~~visited~~ afflicted nearly every year for above half
a century, ~~has ceased~~ by the plague has

England ~~in the year 1665 so as~~ to afford an asylum to the ~~Court and~~ Royal family of ~~Eng~~ Britain from ~~the~~ plague which ravaged London & many other parts of Eng. ~~only in the year 1665~~ in the year 1665 only in consequence of its being been ~~recently~~ cleansed some years before by the Bishop of Winchester

2 In the Construction of ~~our~~ cities, ~~al~~ narrow streets & alleys shd be carefully avoided. ~~a large~~ Deep ~~lots~~ ~~yards~~ should be left for a yard, or garden for every house, and ~~so~~ subterraneous channels shd. convey off the contents of privies — a great advantage would arise, could cities be built so as to leave vacant squares ~~between equal to those~~ equal in number & size to those which were covered with houses. ~~Perhaps they it might be seen~~ the light & dark squares of a Chesser board might serve as ~~a~~ models for ~~and then~~ the execution ~~a city~~ of such a plan for ~~a city~~ all cities which are to contain more than 5,000 people. The city of London had ~~so~~ never been visited by ~~the plague since~~ it since ~~the destruction~~ by fire ~~of the houses closed wooden buildings in~~ the year 1666. Heaven ~~seems~~ as if appeased by the sufferings of ~~that city the year before~~ her ~~citizens of London~~ citizens

v

I have met with many excellent quotations from a work upon this part of our subject by Lozzetti a physician of Italy from which I have no doubt much useful information might be obtained. The Rev: Th: Hull a Gentleman at Leghorn to whom I made an unsuccessful application for this work speaks of it in his answer to my letter in the following terms. "~~Lozetti has~~ "It is in such high estimation that the late Emperor Leopold when grand Duke of Tuscany caused it to be reprinted at his own expense, & presented it to his friends. The ~~[illegible]~~ consequence of this, was it influenced the proprietors of low, marshy lands in the neighbourhood of the River Arno to drain & cultivate them, and thereby rendered ~~them~~ the abode of ~~[illegible]~~ noxious air, and malignant fevers, a terrestrial paradise"

Plague checked by Rivers &c

in that memorable year, ~~from that disease, in many pointed out and avoyd~~
at the time they were venting ~~its their cause, and while they were~~ excavations
upon a harm lys
bale of Silks ~~can~~ imported from Holland as the
vehicle of the seeds of the disease, kindly pointed out
& removed its cause by permitting a fire to
destroy whole ~~wooden buildings~~ which had been
wooden buildings
the sources of their calamities. Those Streets
were to London what water Street & Farmers Row are
Hills point to Baltimore, ~~to north~~ ~~The to~~ the Slip to New
York and water Street to the town of Norfolk. —

3 ~~The~~ The Summer & autumnal diseases of
~~our country~~ arise from marsh exhalations
they should be ~~destroyed~~ destroyed by drains, by
wells communicating with their subterraneous
springs, ~~perforations~~ in the manner recommended by
Dr Anderson, ~~or~~ by ~~covering them with sea~~ cultivating upon them, certain
grapes which absorb their ~~water~~, ~~&c by a~~ moisture, & when
none of these modes of destroying them is
practicable, by overflowing them with water.

4 ~~It has been remarked that the Annual~~ The Summer & autumnal Diseases of our Country
~~disease of our country~~ have often followed

the erection of mill dams. ~~The~~ They may easily be prevented by ~~intercepting~~ surrounding ~~the shores of~~ those receptables of water with trees which ~~to obviate the~~ sun's action ~~upon~~ prevent ~~exhale~~ the sun acting upon this shore so as to exhale miasmata from them. ~~which this cannot be done, a copse of wood should always be~~ ~~In~~ Trees planted upon the sides of creeks & rivers near a house, serve the same salutary purpose.

5. It has often been observed that families enjoy good health for many years ~~who spend years~~ in the ~~Cedar~~ swamps of Delaware & N Carolina while they are in ye natural state ~~enjoying good health~~ ~~before they are cleared~~ ~~of the southern states~~ ~~This~~ but that sickness always follows the action of the rays of the sun upon the moist surface of the earth after they are cleared. For this reason, the cultivation of a country, ~~with~~ and always follow the cutting down of its timber, ~~as~~ in order to prevent the new ground ~~emitting~~

becoming by its exhalations a source of ~~our~~ disease. a law to make Phys: report ~~on oath~~ first cases of fever.

In speaking of the means of preventing the malignant forms of our ~~[illegible]~~ fevers, it may appear strange that I have said nothing of the efficacy of quarantines ~~to defend our cities from~~ for that purpose. Where I now ~~address standing before~~ addressing an audience composed exclusively of citizens of ~~Philadelphia~~ Pennsylvania, I would do homage to ~~their feelings~~ prejudices by a respectful & melancholy silence, ~~be silent~~ upon this subject, ~~to~~ & I would request permission to retire for a few minutes to ~~in~~ ~~do~~ deplore in secret the evils which ~~the~~ a belief in ~~our country~~ quarantines has done to our country. But as I am ~~addressing~~ speaking to ~~an~~ gentlemen from ~~a particular city to form an opinion~~ of ~~unprejudiced minds~~ ~~opinion of citizens of~~ other States ~~and whose~~ ~~nearly all the States in the Union~~, ~~has any~~ whose minds are ~~free of prejudice~~ ~~up~~ open to ~~a reason~~ ~~opinions are yet to form upon this~~ ~~[illegible]~~ the dictates of reason, ~~unprejudiced upon this subject~~, I feel myself safe in asserting that ~~they are a malignant~~ quarantines are of no efficacy in preventing ~~the~~ our malignant

to medicine in our country, & that hundreds who would blush to write in the cry of "great is Diana of Ephesus" are ~~not~~ ashamed to ex-claim, "great are the guarantines of all our States!" knock-out brains!

Should I attempt to enumerate all the evils which ~~or belief in~~ this error has introduced into our country, my letter would not end with the day. Thousands of our citizens have been conveyed by it to premature graves. Millions of Dollars have been wasted by its ~~ill~~ fatal influence upon the public mind. By unnecessarily shutting up the ports of foreign countries against our Ships, it has impaired our commerce, agriculture & manufactures. But this is not all. The belief in the contagious nature of the yellow fever which is ~~so~~ so solemnly ~~&~~ enforced by Quarantines has demoralized our citizens, & in some instances petrified their very hearts.

bilious fevers, in any other way than by excluding the foul air that is generated in the hold of a ship which may be done as easily in a single day as as in weeks or months. They originated in error, and have have been kept up for ~~many a~~ many ~~centuries~~ years by a servile & traditional faith in the opinions and conduct of our ancestors in medicine. They do violence to reason & science by ~~disposing~~ rejecting the connection between all the changes which take place ~~betwe~~ in the animal vegetable & aerial kingdoms, and the existence of pestilence, and thus ~~defeat the~~ render abortive a large portion of the goodness of heaven ~~as~~ to the children of men. In a word, they ~~act the~~ produce all the evils of the fatalism of the Turks under ~~a specious~~ the cover of a popular & imposing name. In contemplating the prevalence of a general ~~prevalence~~ belief in quarantines in the higher & more respectable classes of citizens ~~that~~ we are disposed to believe there has been a ~~metastasis~~ translation of superstition from Religion

~~for the ravages of our fever upon the lives of our~~
the ~~depopulation~~ of our cities from the filth
now generating in ~~our~~ their bowels - the ~~decay~~ Destruction of our
trade, & the universal poverty, & distress of our country
population ~~by the deaths of the inhabitants of our cities~~
~~medical~~ from the continuance & increase of our
~~infirmaries hospitals~~ - and ~~the from the operations~~
domestic
pestilence among us, -
- did not a ray of light break in from the
east to ~~dissipate~~ dispel the gloom which such a
~~distressing~~ anticipations are calculated to create.
~~ages~~ but
Yes - the plague, ~~which has been balanced from~~
~~the source of our fever~~ ~~of our land~~ ~~of our~~ the source of our globe
has ~~lately~~ been ~~discovered~~ proved to be ~~a disease of the~~ the offspring
fever,
of domestic exhalations & incapable of being com-
municated by contagion, & of being equally subject to destruction.
A ~~more important~~
discovery more pregnant with blessings to man-
kind, has ~~seldom~~ ~~been~~ been made. ~~been the salvation~~ Its universal

It ~~this~~ has extinguished friendships — annihilated religion — and even violated the sacrament of nature by resisting the loud & vehement cries of filial and parental blood.

In contemplating Gent. ~~all~~ the present operation of all the causes which have produced the public & private calamities that have been mentioned, I should feel disposed to retire from your presence, & deplore in secret the future depopulation of our cities, ~~from the filth and putrefaction in them~~ the destruction of our Commerce, & the universal poverty & distress of our ~~country~~ citizens from the continuance & increase of all the causes of domestic pestilence among us, — did not a ray of light break in from the East to dispel the gloom which such anticipations are calculated to create — yes the plague, the scourge & terror of our globe, has been proved, like our ~~yellow~~ american yellow fever, to be the

~~V consequence of the Physicians & Statesmen~~ philosophers

of two great & hostile nations ~~[illegible] in it~~ concerning

~~to [illegible] it over part of the world.~~

V It is impossible to describe all the benefits which await this achievement of our prowess our pestilence upon the affairs of our globe. Large cities will no longer be the hotbeds of disease and death. Extensive regions of low and marshy grounds overtuning ==

v abashed by the defeat which he has lately met with from science in Egypt, -

+ Its influence must be felt in every part of the United States, ~~and~~ for ~~the~~ ~~all the laws which apply~~ belong ~~our malignant fever~~ ~~to the generation & extinction of the Eastern plague~~ ~~Apply to the~~ our malignant fever is the ~~child~~ effect of the same ~~parents, and~~ causes which generate the ~~pl~~ Eastern plague, and must submit to the same modes of

offspring of domestic exhalations, ~~and~~ to be in=
=capable of being communicated ~~of~~ by Contagion.
, and of course, to be subject to destruction. A
discovery more pregnant with blessings to man=
=kind, has seldom been made. Its universal
adoption is ensured by the physicians, and
philosophers of two great & hostile nations concurring
to disseminate it over every part of the world.
Pyramids of war, the work of successive
ages and nations must fall before it, &
rivers of tears must be Dried up by it.
No wonder death, abashed by the defeat he
has met with from Science in Egypt, has
lately grasped the Sword of War with tenfold
fury, as if conscious it was the only re=
=maining instrument of the general, and
sudden destruction of the human race.

v = trace of our Autumnal Air, ~~and~~ shall no more be damped by Autumnal sickness. ~~The~~ An accidental ~~existence of a~~ case of bilious fever shall expose the place where it ~~exists~~ is generated to obloquy & disgrace.

only with pestilential exhalations, shall be converted into ~~fertile~~ fruitful fields, and ~~afford pleasant~~ crowned with ~~the pleasant~~ ~~&~~ healthy abodes ~~for the children~~ of men. Rosy health ~~and manly strength~~ shall succeed ~~the~~ pale, or sallow countenance ~~of fevers~~ upon the banks of our creeks & rivers. ~~The exhalations of the earth should no longer be separated from~~ The ~~miasma shall~~ disappear upon a powerful source of repulsion between nations shall be removed, and commerce ~~from~~ shall shake of ~~droops~~ the fetters which have been ~~rich~~ ~~cease to feel~~ its wings ~~in~~ under the impressed upon it by vexations & expensive quarantine ~~influence of total agrious diseases. Quarantines~~ lazzarettos. ~~shall cease to be the vexation causes of unnecessary lazarettos, & lazarettos of old and~~ vexation a yellow, or a red eye, ~~in a disease. man The sight of a man in the chilly fit of a fever~~ shall no longer be a signal for ~~flight and~~ cheaving ~~to~~ a fellow creature to perish ~~without aid~~ alone in a garret or a barn. The number of diseases shall be limited, & the most mortal of them shall be struck out of the list of human evils. It is impossible to hear

of this future ~~happy~~ change ~~is the condition of our~~
~~globe~~ ~~of the~~ melioration of the physical condition of
man ~~our globe~~ ~~without~~ ~~our~~ without cherishing
a hope that some great ~~our~~ change equally
favourable to his moral ~~&~~ intellectual & political hap-
-piness is about to take place upon our Globe.
The hope is strengthened by the similar influence ch.
~~the~~ the late discovery of vaccination is calculated
to produce upon ~~the~~ the increase of the hu-
man species. ~~race~~ Men we can scarcely believe
are to be thus multiplied, ~~beyond all former ima-~~
~~times~~, only to ~~our~~ ~~increase the 2~~ ~~swell the number~~ of ~~slaves~~
~~to drink more copiously of the~~ ~~force a more~~
~~calamitous~~ ~~because the~~ afford ~~a more~~ numerous ~~calamitous~~
subjects ~~people~~ ~~capes~~ for ~~the~~ miseries which are con-
-nected with the prevailing ~~our~~ ignorance, ~~&~~ vice & slavery of
the greatest part of the inhabitants of the world. But
~~But I release from the this pleasing~~
Drops — Dr. I am forced
— the Curtain ~~Drops~~ — ~~which intercepts~~
~~to quit~~ ~~leave~~
~~for~~ ~~Dr~~ retire with reluctance ~~from the~~
~~scenes~~ to which ~~my~~ attachment to ~~our~~ fellow

~~had led me~~ — the delightful prospects into futurity, to which my ~~attachment to~~ aspect for a great interesting discovery ~~truth~~ had led me. — I have only to suggest to ~~the members of our society~~ you great ~~it~~ to render ~~it~~, this discovery ~~and all the other means of~~ ~~effect~~ extensively & speedily useful, our labors must second the researches of our European brethren. Let us ever recollect that we ~~are~~ are the sentinels of the health & lives of our fellow citizens, and that ~~these~~ ~~is a grade of~~ ~~highest~~ merit in ~~our~~ our profession much ~~greater~~ higher ~~above~~ than that which ~~consists~~ arises from the cure of diseases. It consists in ~~destroying~~ ~~exterminating their causes, & thereby~~ destroying them, by exterminating their causes. —

~~For the attention with which you have~~ honored my detail of facts, I beg you to accept my ~~very~~ ~~warmest~~ grateful acknowledgements for its length, — ~~I beg~~ your forgiveness. For its defects I solicit your candor, ~~&c~~ for and with my best

wishes for the usefulness & prosperity of our society, ~~and~~ for the individual happiness of each of ~~you~~ my colleagues, thus a cordial Adieu! — on — I bid you request each of you to accept of my most cordial salutations. —